



Safety Data Sheet

Preparation Date 01-May-2015

Revision date 22-Jul-2025

Revision Number: 9

1. Identification of the Substance/Preparation and of the Company/Undertaking

Identification of the product

Product Description Manzate Max Fungicide

Other means of identification

Internal SDS code 12-394X

Registration number(s) 70506-194

Recommended use of the chemical and restrictions on use

Recommended use Fungicides.

Uses advised against Activities contrary to label recommendation

Details of the Supplier of the Safety Data Sheet

Supplier Address

UPL NA Inc.

PO Box 12219

Research Triangle Park, NC 27709-12219

Emergency telephone number

Company Phone Number 1-800-438-6071

Emergency telephone number Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison and Drug Safety (866) 673-6671 (24hrs)

2. Hazards Identification

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin sensitization	Category 1B
Carcinogenicity	Category 2
Reproductive Toxicity	Category 1B
Specific target organ toxicity (repeated exposure)	Category 2

Label elements

EMERGENCY OVERVIEW

WARNING

Hazard Statements

May cause an allergic skin reaction

Harmful if inhaled

May damage fertility or the unborn child

Suspected of causing cancer

May cause damage to organs through prolonged or repeated exposure

**Appearance** Yellow Green**Physical state** Liquid**Odor** pungent**Precautionary Statements - Prevention**

Do not handle until all safety precautions have been read and understood

Do not breathe dust/fume/gas/mist/vapors/spray

Do not eat, drink or smoke when using this product

Wash face, hands and any exposed skin thoroughly after handling

Contaminated work clothing should not be allowed out of the workplace

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention

IF ON SKIN: Wash with plenty of soap and water

If skin irritation or rash occurs: Get medical advice/attention

Wash contaminated clothing before reuse

IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing

Call a POISON CENTER or doctor/physician

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local/national regulations

Hazards Not Otherwise Classified (HNOC)**OTHER INFORMATION**

- Toxic to aquatic life

3. Composition/information on Ingredients

Chemical name	CAS No	Weight-%
1,2-Benzisothiazolin-3-one (Proxel GXL)	2634-33-5	0.16
Zinc manganese ethylenebis dithiocarbamate	8018-01-7	37
Ethylene thiourea	96-45-7	0-0.5

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. First aid measures

FIRST AID MEASURES**Eye contact**

Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin contact

Remove and wash contaminated clothing before re-use. Wash off immediately with soap and plenty of water for at least 15 minutes. Call a poison control center or doctor for treatment advice.

Inhalation Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.

Ingestion Call a physician or poison control center immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

Protection of First-aiders Use personal protective equipment.

Most Important Symptoms and Effects, Both Acute and Delayed

Most Important Symptoms and Effects MAY CAUSE ALLERGIC SKIN REACTION.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Notes to physician Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media

Carbon dioxide (CO₂).

Use: Dry chemical. Water spray. alcohol-resistant foam.

Unsuitable extinguishing media no data available.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating gases and vapours.

Hazardous combustion products Carbon disulfide, ethylene thiourea (ETU). Carbon oxides. Oxides of nitrogen.

Explosion data

Protective equipment and precautions for firefighters

Use personal protective equipment. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid contact with skin and eyes. Wear protective gloves/protective clothing and eye/face protection. Wash thoroughly after handling.

Environmental Precautions

Environmental precautions Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Methods and material for containment and cleaning up

Methods for Clean-Up Soak up with inert absorbent material. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep up and shovel into suitable containers for disposal.

7. Handling and Storage

Precautions for safe handling

Handling Do not eat, drink or smoke when using this product. Avoid contact with skin and eyes. Wear personal protective equipment. Do not breathe vapours or spray mist. Wash thoroughly

after handling. Remove and wash contaminated clothing before re-use.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a cool, well-ventilated place.

incompatible materials Strong oxidizing agents.

8. Exposure Controls/Personal Protection

Exposure guidelines

Chemical name	ACGIH TLV	OSHA PEL
Zinc manganese ethylenebis dithiocarbamate		(vacated) Ceiling: 5 mg/m ³

Engineering controls Investigate engineering techniques to reduce exposures. Local mechanical exhaust ventilation is preferred. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

Personal protective equipment

Eye/Face Protection

Use eye protection to avoid eye contact. Where there is potential for eye contact have eye flushing equipment available. Safety glasses with side-shields. If splashes are likely to occur, wear: Goggles. Face-shield.

Skin protection

Respiratory protection

Long sleeved clothing. Chemical resistant gloves. Chemical resistant footwear plus socks. Where airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use an approved full face positive-pressure, self-contained breathing apparatus. Respiratory protection programs must comply with 29 CFR 1910.134.

General hygiene considerations

Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wear suitable gloves and eye/face protection. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance Yellow Green
Physical state Liquid
Odor pungent
color No information available

Property	VALUES	Remarks/ Method
pH	8	None known
Melting point/freezing point	9 °C	None known
Boiling Point/Range		None known
Flash Point	No information available	None known
Evaporation Rate		None known
Flammability (solid, gas)		None known
Specific gravity	1.27-1.33	None known
Bulk density	1270 kg/m ³	None known
Water solubility		None known
Solubility in Other Solvents	Dispersible in water	None known
Partition coefficient: n-octanol/water		None known
Autoignition temperature		None known
Decomposition temperature		None known
Viscosity		None known

9.2 OTHER INFORMATION- NONE**10. Stability and Reactivity****Reactivity**

no data available

Chemical stability

Stable under normal conditions. Hazardous polymerisation does not occur.

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerization

Hazardous polymerisation does not occur.

Conditions to avoid

No information available.

incompatible materials

Strong oxidizing agents.

Hazardous decomposition products

Carbon oxides. Ethylenethiourea.

11. Toxicological Information**Information on Likely Routes of Exposure****Product information**

Manzate Max= oral LD50 = >5,000 mg/kgdermal LD50 = >5,000 mg/kginhalation LC50 = >2.02 mg/L No deathsirritation = Slight irritation = Slight sensitizer = Not a sensitizer

Inhalation

Harmful if inhaled.

Eye contact

May cause slight irritation.

Skin contact

Based on available data, the classification criteria are not met. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

Ingestion

Based on available data, the classification criteria are not met.

Information on Toxicological Effects**Symptoms**

No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Sensitization**

Repeated or prolonged contact may cause allergic reactions in very susceptible persons.

Mutagenic effects

no data available.

Carcinogenicity

The information below indicates whether any agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Ethylene thiourea 96-45-7	-	Group 3	Reasonably Anticipated	X

IARC: (International Agency for Research on Cancer)

A trace contaminant, Ethylene thiourea (ETU) a breakdown product of Maneb, has been categorized as a probable human carcinogen by NTP.

Reproductive effects	Suspected of damaging fertility or the unborn child.
STOT - Single Exposure	no data available.
STOT - Repeated Exposure	May cause damage to organs through prolonged or repeated exposure.
Chronic toxicity	Avoid repeated exposure.
Target organ effects	Thyroid, Respiratory System.
Aspiration hazard	No information available.

Numerical Measures of Toxicity - Product information

LD50 Oral	> 5000 mg/kg (rat)
LD50 Dermal	> 5000 mg/kg (rat)

12. Ecological Information**ecotoxicity**

Manzate:
96 hr LC50
Rainbow trout = 0.73 mg/L
Fathead minnow = 0.57 mg/L
Bluegill sunfish = 0.84 mg/L
72 hr EC50
Freshwater algae = 0.43 mg/L

Persistence/Degradability

no data available.

Bioaccumulation/ Accumulation

Bioaccumulative potential.

Chemical name	Log Pow
1,2-Benzisothiazolin-3-one (Proxel GXL) 2634-33-5	1.3

Other Adverse Effects

no data available

13. Disposal Considerations**Waste Treatment Methods**

Waste Disposal Method	Pesticide wastes can be hazardous. Improper disposal of excess pesticide or rinsate is a violation of Federal law. If the wastes cannot be disposed of by use or according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.
Contaminated packaging	Refer to product label.

14. Transport Information

<u>DOT</u>	Not regulated when shipped domestically by highway in non-bulk containers as per 49 CFR 171.4 When shipped in bulk, by vessel, or internationally refer to the IMDG shipping description:
<u>TDG</u>	When shipped in Canada domestic highway non-bulk this product can be shipped as Not

regulated as per TDG 1.45.1
In bulk, by vessel or internationally - use IMDG description

IATA

UN/ID no	Single or inner packagings less than 5L (liquid) or 5kg net (solids) are excepted from the Dangerous Goods regulations (IATA Special provision A197)
Proper shipping name	UN3082
Hazard class	Environmentally hazardous substances, liquid, n.o.s (Mancozeb)
Packing group	9
Description	PG III
	Marine pollutant

IMDG

UN/ID no	Single or inner packaging less than 5L (liquid) or 5 kg net (solids) are excepted from the Dangerous Goods regulations (IMDG 2.10.2.7)
Proper shipping name	UN3082
Hazard class	Environmentally hazardous substances, liquid, n.o.s (Mancozeb)
Packing group	9
Environmental hazards	PG III
	IMDG - Marine Pollutant

15. Regulatory Information

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

signal word CAUTION

Ventilation Control PESTICIDE APPLICATORS & WORKERS THESE WORKERS MUST REFER TO PRODUCT LABELING AND DIRECTIONS FOR USE IN ACCORDANCE WITH EPA WORKER PROTECTION STANDARD 40 CFR PART 170.

Keep out of Reach of Children. Harmful if swallowed. Harmful if inhaled or absorbed through skin. Toxic to fish and aquatic organisms.

International Inventories

USINV	Present
DSL/NDSL	Not present
EINECS/	Not Present
ELINCS	
ENCS	Not Present
China	Present
KECL	Present
PICCS	Present
AICS	Not Present
TSCA	Not Present

- **TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

CERCLA

Not applicable

Chemical name	RQ	CERCLA EHS RQs	RQ
Ethylene thiourea 96-45-7	10 lb		RQ 10 lb final RQ RQ 4.54 kg final RQ

CERCLA

Component	RQ
Ethylene thiourea 96-45-7 (0-0.5)	10 lb

RCRA

Component	RCRA - D Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Ethylene thiourea 96-45-7 (0-0.5)			U116

Pesticide Information

Component	FIFRA - Restricted Use	FIFRA - Pesticide Product Other Ingredients	FIFRA - Listing of Pesticide Chemicals	California Pesticides - Restricted Materials
1,2-Benzisothiazolin-3-one (Proxel GXL) 2634-33-5 (0.16)			X	
Zinc manganese ethylenebis dithiocarbamate 8018-01-7 (37)			X	
Ethylene thiourea 96-45-7 (0-0.5)			X	

State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

Component		California Prop. 65
Zinc manganese ethylenebis dithiocarbamate 8018-01-7 (37)		Carcinogen
Ethylene thiourea 96-45-7 (0-0.5)		Carcinogen Developmental
Chemical name	CAS No	CATEGORY
Zinc manganese ethylenebis dithiocarbamate	8018-01-7	Carcinogen
Ethylene thiourea	96-45-7	Carcinogen

Prop 65 Pictogram

Prop 65 Warning Statement
California Proposition 65

WARNING

This product can expose you to chemicals which is [are] known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

State Right-to-Know

Chemical name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Ethylene thiourea - 96-45-7	X	X	X	X	

International regulations**U.S. EPA Label information**

EPA Pesticide registration number 70506-194

16. Other Information

NFPA	HEALTH 1	flammability 0	Instability 0	Physical hazard -
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Preparation Date 01-May-2015

Revision date 22-Jul-2025

Revision Summary

Update section 2 Update section 4 Update section 11 Update section 15

Disclaimer

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End of SDS